

**AMENDMENTS TO THE CLAIMS:**

Please amend Claims 1, 5, 6 and 10 shown below. This listing of claims replaces all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently amended) A multi-aperture high-fill-factor telescope comprising:  
a plurality of sub-aperture telescopes, each sub-aperture telescope being configured to collect electromagnetic radiation from a scene and including first, second, third, and fourth powered mirrors;  
a set of combiner optics configured to combine electromagnetic radiation collected by the sub-aperture telescopes to form an image of the scene; and  
a plurality of sets of relay optics, the sets of relay optics ~~are~~ being respectively associated with the sub-aperture telescopes, ~~[[and]]~~ each set of relay optics ~~includes~~ including a first flat fold mirror, a trombone mirror pair, and a last flat fold mirror, wherein the last flat fold mirrors are disposed within about a beam diameter of respective exit pupils from the respective exit pupils of the sub-aperture telescopes.
2. (Original) The multi-aperture high-fill-factor telescope of claim 1, wherein the last flat fold mirrors are disposed substantially symmetrically about a central axis.
3. (Original) The multi-aperture high-fill-factor telescope of claim 1, wherein each of the first and second powered mirrors of the sub-aperture telescopes form a first Cassegrain telescope and each third or fourth powered mirrors of the sub-aperture telescopes form a second Cassegrain telescope.

4. (Original) The multi-aperture high-fill-factor telescope of claim 1, wherein each of the first and second powered mirrors of the sub-aperture telescopes forms a Gregorian telescope and each third and fourth powered mirrors of the sub-aperture telescopes form a Cassegrain telescope.

5. (Currently amended) The multi-aperture high-fill-factor telescope of claim 1, wherein each of the first and second powered mirrors of the sub-aperture telescopes ~~form~~ forms a Cassegrain telescope and each third and fourth powered mirrors of the sub-aperture telescopes form a Gregorian telescope.

6. (Currently amended) The multi-aperture high-fill-factor telescope of claim 1, wherein the set of combiner optics ~~form~~ forms a combiner telescope.

7. (Original) The multi-aperture high-fill-factor telescope of claim 6, wherein the exit pupils are located about at an entrance pupil of the combiner telescope.

8. (Original) The multi-aperture high-fill-factor telescope of claim 1, wherein the exit pupils are located about at the last flat fold mirrors.

9. (Original) The multi-aperture high-fill-factor telescope of claim 1, wherein the first, second, third, and fourth powered mirrors of each telescope are configured to correct for sine magnification errors.

10. (Currently amended) A multi-aperture high-fill-factor telescope comprising:  
a plurality of sub-aperture telescopes, each sub-aperture telescope including at least first, second, third, and fourth powered mirrors and an exit pupil disposed optically remote from an associated sub-aperture telescope;

a plurality of sets of relay optics disposed optically downstream from the plurality of sub-aperture telescopes, and each set of relay optics ~~includes~~ including a first flat fold mirror, a

No.: 10/803,786

trombone mirror pair, and a last flat fold mirror, wherein each last flat fold mirror is disposed within about a beam diameter of an associated exit pupil from the associated exit pupil; and

a combiner telescope disposed optically downstream from the sets of relay optics.